



Applicants appreciate that the Examiner found claims 1 to 28 allowable and have amended claims 16 and 25 in accordance with the Examiner's suggestions to address the informalities mentioned in items 6a) and 6b) of the Office Action. The objections against claims 16 and 25 should therefore be withdrawn.

Claims 29-30 and 33 stand rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (EP 267 766). The rejection is based on the Examiner's attempt to read claim 29 on a system that is described in the Phillips reference on pages 6 and 7 and shown in Figure 3. Applicants respectfully submit that the Examiner has misinterpreted the Phillips reference, at least by equating the term "magnification" (used by Phillips) to the term "imaging ratio" that is used, e.g., in claim 29 of the present application. The terms "magnification" and "imaging ratio" are defined as follows on page 14, lines 16-22 of the present patent application:

*"In this context, the imaging ratio between two conjugated field planes is defined as the absolute value of the ratio between an object height and an image height, wherein the magnification ratio between two conjugated field planes is defined as the ratio between an image height and an object height, having e.g. a positive sign for an upright image and a negative sign for an inverted image."*

Accordingly, the "imaging ratio" as used in the present application is by definition always positive, while the "magnification ratio", likewise based on the definition, can be positive or negative. In addition, and most importantly, the absolute value of the magnification ratio is the reciprocal of the imaging ratio. For example, a magnification ratio of -0.25 correlates to an imaging ratio of  $\left| \frac{1}{-0.25} \right| = 4 : 1$ . In other words, a large imaging ratio correlates to the formation of a reduced image, while a large magnification ratio correlates to the formation of a magnified image.

The Examiner refers to the embodiment according to Figure 3 in the Phillips reference. Even from Fig. 3 alone, it is clear that only the first partial objective 72 produces an enlarged image with an imaging ratio smaller than 1:1. This can be concluded from the aperture angles of the light rays shown in Fig. 3. In the case of an image reduction the aperture angle increases, while in the case of an image enlargement the aperture angle decreases. The specific numerical values given in the description corroborate this. The Examiner refers to the description of Figure 3, according to which the first subsystem 72 has a magnification of 5.99, while the second subsystem 74 has a magnification of 2.66. To interpret these numbers correctly, one needs to refer to the general description of this type of objective, which is presented in the context of Figure 2 of EP 0 267 766. According to column 9, lines 29 to 31, this type of objective consists of two catoptric reduction imaging subsystems that are “coupled back to back at their nominal image planes 46 and 48, respectively.” Thus, only the first subsystem actually operates as a reduction objective, while the second subsystem, being installed with reverse orientation, operates as a magnifying objective. As disclosed further in column 9, lines 43 to 48, the overall magnification ratio of the objective is the ratio of the magnification of the first subsystem divided by the magnification of the second subsystem. While one would normally expect an overall magnification ratio to be the multiplication product of the subsystem magnification ratios, the unusual way of calculating the overall magnification ratio as the quotient of the subsystem ratios is correct in the case of the Phillips reference for the reason that the second partial objective was installed with reverse orientation, i.e., with the image plane rather than the object plane of the second partial objective being located in the intermediate image.

If the term “imaging ratio” is defined according to the present application, the embodiment according Phillips’ Figure 3 has an imaging ratio of 5.99 : 1 (i.e., larger than 1 : 1) for the first partial objective, while the second partial objective has an imaging ratio of 1 : 2.66 which equals a ratio of 0.376 : 1 (i.e., smaller than 1 : 1).



